

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (withdrawn) A method for processing a sample, comprising the steps of:
supplying a process gas to a processing chamber;
generating plasma using a plasma generator; and
processing the sample placed on a platform using the plasma;
wherein, in the sample processing step, a space in the processing chamber except for a space defined between electrodes of the plasma generator or a portion above the platform in which the plasma is generated is irradiated with laser light for scanning;
wherein scattered light from contaminants present in the processing chamber is detected; and
wherein the contaminants are detected based on the detected scattered light.
2. (withdrawn) The method according to claim 1, wherein the space irradiated with the laser light for scanning is a space defined between the processing chamber and an exhaust passage.
3. (withdrawn) The method according to claim 2, wherein the laser scanning is performed in such a manner that a scanned surface is orthogonal to a direction of exhaust along which the process gas or contaminants flow from the processing chamber to the exhaust passage.

4. (withdrawn) The method according to claim 1, wherein the laser light is emitted from a position which is not orthogonal to an inner wall of the processing chamber to be irradiated with the laser light.

5. (currently amended) An apparatus for processing a sample, comprising:
a processing chamber provided with a platform on which the sample is placed, the processing chamber being provided with a measurement window formed on a wall surface;

~~evacuation~~ exhaustion means for ~~evacuating~~ exhausting the processing chamber;

gas injector for injecting a gas into the processing chamber;

a plasma generator for generating plasma in the processing chamber after ~~the processing chamber has been evacuated by the use of the evacuation means and~~
the gas has been injected into the processing chamber by the use of the gas injector;
and

~~a particle detector for detecting scattered light generated from contaminants present in the processing chamber by irradiating and scanning, with laser light, a space which is defined in the processing chamber but is outside a region where the plasma is generated via the measurement window during processing the sample placed on the platform with the plasma generated in the processing chamber by the use of the plasma generator~~ which scans a laser beam in a plane inside of the processing chamber and outside of a region where the plasma is generated, and which detects light scattered from a particle crossing the plane while the laser beam scans in the plane.

6. (currently amended) The apparatus according to claim 5, wherein the laser is introduced from outside of the processing chamber to the inside of the processing chamber through a measurement window which is provided in a space defined between the processing chamber and an exhaust passage of the exhausting means.

7. (currently amended) The apparatus according to claim 6, wherein ~~the laser scanning is performed by the particle detector in such a manner that a scanned surface is orthogonal to a direction of exhaust along which the gas or the contaminants flow from the processing chamber to the exhaust passage~~ the particle detector is disposed outside of the processing chamber detects the scattered light through the measurement window.

8. (currently amended) A plasma processing apparatus control system comprising:

a plasma processing ~~apparatus unit~~ including a chamber, a platform plate on which a sample is placed, a plasma generator, and a measurement window formed on a wall surface of the chamber, the apparatus-processing unit being used for processing the sample placed on the platform plate with the plasma generated by the plasma generator inside of the chamber;

~~a particle detector for detecting scattered light generated from contaminants present in the plasma processing apparatus by irradiating and scanning, with laser light, a space which is defined in the processing apparatus but is outside a region where the plasma is generated via the measurement window of the processing apparatus during the plasma processing on the sample by the processing apparatus;~~

detecting unit which scans a laser beam in a plane inside of the chamber and outside of a region where the plasma is generated, and which detects light scattered from a particle crossing the plane while the laser beam scans the plane; and

a ~~controller~~-controlling unit for receiving a signal output from the processing apparatus-unit and a detection signal from the particle ~~detector~~-detecting unit to control the processing apparatus-unit and to monitor a state of contaminant contaminants inside of the chamber data.

9. (currently amended) The plasma processing apparatus ~~control system~~ according to claim 8, wherein the ~~controller~~-controlling unit compares the output signal from the processing apparatus-unit with ~~a timing of the contaminant the detection signal~~ by the particle ~~detector~~-detecting unit to identify a contaminant source in the processing apparatus.

10. (currently amended) The plasma processing apparatus control system according to claim 8, wherein ~~the controller controls contaminants depending on signal intensity of the scattered light and the number of scattered light generations from the contaminants detected by the particle detector, and instructs a maintenance timing and a maintenance method depending on the signal intensity of the scattered light and the number of scattered light generations~~ the laser is introduced from outside of the processing chamber to the inside of the processing chamber through a measurement window, and the light scattered from the particle crossing the plane is monitored through the measurement window.

11. (new) The apparatus according to claim 5, wherein the exhaustion means enables evacuation of the processing chamber, and the plasma is generated after the processing chamber has been evacuated.